

**To:** Phil North/R10/USEPA/US@EPA;Michael Link [mlink@lgl.com]; ichael Link [mlink@lgl.com]  
**From:** Guy Wade  
**Sent:** Wed 3/31/2010 6:42:00 PM  
**Subject:** Re: Nushagak and Kvichak Smolts

Phil,

I wanted to let you know that I did receive your email. I will talk this over with Michael Link (Chief Scientist for BBSRI) and see if we can't provide you with some useful information in the next few days.

Thanks,

Guy

Guy Wade  
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North.Phil@epamail.epa.gov wrote:

> Hi Guy,  
> Carol Ann Woody gave me your contact information. I am an ecologist  
> working on the Pebble Mine for the EPA aquatic resources program (often  
> misnamed the wetlands program). I have been sketching out the issues we  
> need to address in the expected upcoming review. I am trying to get a  
> sense of the range of potential loss of smolt emigration given the mine  
> foot print as well as possible chronic small scale spills and  
> catastrophic failure of a large tailings dam. I am looking down stream  
> at marine ecosystems in Bristol Bay, Bering Sea and the North Pacific.  
>  
> My initial estimates of smolt numbers were based on an ADFG management  
> rule-of-thumb of 10% egg to smolt survival. A recent presentation by  
> Carol Ann Woody suggested that this produces number that are way too  
> high. She suggested I check with you. If you can spare a moment can  
> you give me a little direction in how to estimate reasonable smolt  
> numbers. Is that possible? I am not looking to make a firm prediction.  
> I want to get a ballpark range so that I can get a sense of the  
> downstream effects from loss of forage fish in marine ecosystems. We  
> are trying to figure out if that might be an issue.  
>  
> Phil  
>  
> Phillip North  
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>  
> "To protect your rivers, protect your mountains."  
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